ORIGINAL

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices	)	ET Docket No. 99-231
	)	
Wi-LAN, Inc. Application for Certification of an Intentional Radiator Under Part 15 of the Commission's Rules	)	DA 00-2317

Comments of Axonn, LLC In Response To The Commission's Proposal To Eliminate The Processing Gain Requirements For Direct Sequence Spread Spectrum Systems

Axonn, LLC, ("Axonn"), by its attorneys, hereby comments to the Commission's Further Notice of Proposed Rulemaking ("FNPRM") and Order in which it proposes to eliminate the processing gain requirements of direct sequence spread spectrum devices as required by 47 C.F.R. § 15.247(e). Axonn disagrees with the Commission's proposal that the elimination of the processing gain requirement will provide manufacturers with increased flexibility and regulatory certainty in the design of their products. To the contrary, elimination of the processing gain requirement will increase the likelihood of interference between spread spectrum devices and therefore, ultimately be detrimental to the success of the industry. In support of its position, Axonn shows the following:

Axonn Is An Interested Party

Axonn pioneered low-cost, commercially viable direct sequence spread spectrum products and engineering services at a time when most uses remained in the military sector. Axonn was one of the first successful applicants for type acceptance in the 902-928 MHz band. Since the mid 1980's, Axonn has been designing and fielding spread spectrum radio devices. Today, Axonn's products are in service in over four million endpoint devices. Thousands of industrial and commercial services rely on the use of Axonn's spread spectrum technology that is an integral part of remote metering, safety of life, access control and security, location service and industrial monitoring and automation devices. Axonn, along with other pioneers, helped shape the rules that currently govern this band.

The Elimination Of The 10dB Minimum Output Level Will Be Detrimental To The Industry

Section 15.247(e)[1] was adopted to ensure that the direct sequence spread spectrum band would be usable by a maximum amount of simultaneous users with a minimum of interference among those users. This interoperability, with limited negative interaction, remains a core feature of the band and needs to be preserved. Devices in this band operate in a hostile environment with an increasingly rising noise floor. With a minimum process gain level of 10dB, two systems can operate in close proximity with minimal interference. To remove this requirement would cause severe interference problems between critical devices used by industrial and commercial entities.

[1] 47 C.F.R. § 15.247(e).

Axonn, as all manufacturers, is sensitive to the bottom-line and seeks more efficient and cost effective means to develop and get its products to market. However, Axonn disagrees with the Commission's suggestion that the elimination of the 10 dB processing gain requirement will advance the introduction of new technologies. In its FNPRM, the Commission recognizes that "manufacturers have an incentive to design their systems to include processing gain in order for their products to operate properly when located in the proximity of other devices."[2] The Commission acknowledges the significance of manufacturers designing their devices to include processing gain in order to insure that their products operate properly with minimal interference when located in close proximity to other devices.

Although the Commission believes this incentive will induce manufacturers to continue to deploy products with the 10 dB processing gain, mere reliance on this fact will not prevent nor discourage unscrupulous manufacturers who seek to cut corners and decrease production costs. The Commission's proposal will likely result in repercussions that will be detrimental to the industry. This will ultimately degrade the products placed in the marketplace and diminish the credibility of all manufacturers of direct sequence spread spectrum devices. No longer will products be able to interoperate with the minimum levels of interference in which the industry has become accustomed. The inability of spread spectrum devices to interoperate with minimal interference will result in inferior products being placed in the market, and thus, product demand will decrease. Ultimately, the ability of the market to support new entrants and new technologies will also decrease. Therefore, the actions of the Commission will have an opposite affect on the advancement of new technologies.

Axonn's Alternative Proposal To Promote

[2] Further Notice of Proposed Rulemaking and Order, Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices, ET Docket 99-231, FCC 01-158, at paragraph 22.

The Introduction Of New Technologies

Axonn is satisfied with the current rules as established and applied to the direct sequence spread spectrum industry. Axonn sees no benefit to the industry in eliminating the processing gain requirement of the current rules. However, if change is to occur so as to advance the introduction of new technologies, Axonn proposes that the Commission consider removing the timely process of approval by a Telecommunication Certification Body so that new products can get to market faster.

Under the current regulations, designs by manufacturers such as Axonn, must be certificated by the Commission prior to marketing.[3] Alternatively, Axonn proposes that the Commission require manufacturers to insure that their devices meet the processing gain requirement through similar procedures to that of Verification[4] or a Declaration of Conformity.[5] Submittals to the Commission demonstrating compliance would therefore not be required unless specifically requested by the Commission.

A submittal to the Commission showing compliance could encompass either actual hardware testing governed by published procedures outlined in Part 15 of the Commission's Rules[6], or by scientific methods. Axonn proposes that scientific methods should include either quantitative engineering analysis proving the existence of process gain in the overall system design, or by the utilization of other methods such as computer simulation. The Commission would thus have the ability to challenge the processing gain of a manufacturer's design at any time.

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[3] 47 C.F.R. § 2.907, § 2.1031- 2.1060.

[4] 47 C.F.R. § 2.902, § 2.951-2.962.

[5] 47 C.F.R. § 2.906, § 2.1071-2.1077.

[6] 47 C.F.R. § 15.1, et seq.

Allowing manufacturers to proceed in this manner will be more cost effective by eliminating the timely Certification process and at the same time maintain the integrity of the industry. Axonn asserts that its proposal is cost effective and is the least damaging to the interoperability characteristic that so effectively defines the spread spectrum industry. Therefore, the Commission's objective of promoting the introduction of new technologies into the marketplace can be met and the valued characteristics of the industry will be preserved.

Conclusion

For the foregoing reasons, Axonn LLC respectfully requests the Commission not to eliminate the processing gain requirements of 47 C.F.R. § 15.247(e). In the alternative, Axonn, LLC respectfully requests that manufactures insure that their devices meet the 10 dB processing gain requirement through procedures similar to that of Verification or a Declaration of Conformity.

Respectfully submitted,
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Dated: August 24, 2001